11th IEEE International Workshop on High Performance Computational Biology
HiCOMB 2012

May 21, 2012 – Shanghai, China
www.hicomb.org

HiCOMB 2012 Call For Papers

High-performance computing is fast becoming an integral part of research and application in bioinformatics and computational biology. The large size of biological data sets, inherent complexity of biological problems and the ability to deal with error-prone data all result in large run-time and memory requirements. The goal of this workshop is to provide a forum for discussion of latest research in developing high-performance computing solutions to data-intensive and compute-intensive problems arising from molecular biology and related life sciences areas. We are especially interested in parallel algorithms, memory-efficient algorithms, large scale data mining techniques, algorithms on multicores and GPUs, and design of high-performance software for biological applications. The workshop will feature contributed papers as well as invited talks from reputed researchers in the field.

Topics of interest include but are not limited to:

- Bioinformatic databases
- Computational genomics and metagenomics
- Computational proteomics and metaproteomics
- DNA assembly, clustering, and mapping
- Gene expression and microarrays
- Gene identification and annotation
- Parallel algorithms for biological sequence analysis
- Parallel architectures for biological applications
- Molecular evolution and phylogenetic reconstruction algorithms
- Protein structure prediction and modeling
- Next Generation sequence data analysis
- Parallel algorithms in chemical genetics and chemical informatics
- High performance algorithms for systems biology

Important Dates

- Workshop Paper Due: December 20, 2011
- Author Notification: February 1, 2012
- Camera-ready Paper Due: February 15, 2012

Workshop Co-chairs

- Srinivas Aluru, Iowa State University
- David Bader, Georgia Institute of Technology

Program Chairs

- Mark Clement, Brigham Young University
- Quinn Snell, Brigham Young University

Program Committee

- Tjerk Straatsma - Pacific Northwest National Laboratory
- Ananth Kalyanaraman - Washington State University
- Alexandros Stamatakis - Heidelberg Institute for Theoretical Studies
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- Gagan Agrawal - Ohio State University
- Rick Stevens - Argonne National Laboratory
- Chau-Wen Tseng - University of Maryland
- Kamesh Madduri - Pennsylvania State University
- Sanjukta Bhowmick - University of Nebraska at Omaha
- Bertil Schmidt - University of Mainz, Germany
- Katherine St. John - City University of New York
- Martin Herbordt - Boston University
- Andrey Tovchigrechko - J. Craig Venter Institute
- David A. McClellan - Bigelow Laboratory for Ocean Sciences
- Scott Lloyd - Livermore Laboratories
- Umit V. Catalyurek - The Ohio State University
- Heshan Lin - Virginia Tech
- Tiffani L. Williams - Texas A&M University
- Kenneth Sundberg - Utah State University
- Nancy Amato - Texas A&M University
- Harald Meier - Technische Universität München
- Hyrum D. Carroll - Middle Tennessee State University